MAGNOLIA LNG fact sheet

PROJECT	Magnolia LNG, LLC, proposes to construct, own and operate a mid-scale liquefied natural gas (LNG) export facility that will use a thermally efficient LNG process technology.
LOCATION	108 acres of industrial land on Industrial Canal South Shore (PLC Tract 475), through a long-term lease with the Lake Charles Harbor and Terminal District (Port of Lake Charles). The Project site is located on an existing LNG shipping channel and the facility will be accessible by road, near the intersection of Henry Pugh Boulevard and Big Lake Road (Conceptual Layout and Site Map on reverse side).
PROCESS	It is proposed that the Project will receive natural gas via an existing pipeline. The natural gas will be treated, liquefied, and stored onsite. The LNG will be loaded onto LNG vessels for delivery to domestic and export markets and into trucks for domestic distribution in Louisiana and surrounding states.
CAPACITY	At full plant capacity, the Project will consist of four LNG trains (gas liquefaction units), each with a nominal LNG production capacity of 2 million tonnes per annum (mtpa).
TECHNOLOGY	Optimized Single Mixed Refrigerant (OSMR®) liquefaction process has the following main features, which contribute to its high efficiency and 30% less emissions: • Aeroderivative gas turbines and efficient compressors. • Combined heat and power plant, which minimizes plant fuel gas use. • Steam-driven ammonia refrigeration system. OSMR® is 100% developed and owned by Magnolia LNG, LLC's parent company, Liquefied Natural Gas Limited.
OWNER	Magnolia LNG, LLC, a wholly owned subsidiary of Liquefied Natural Gas Limited (www.lnglimited.com.au), GPO Box 920, West Perth WA 6872 Australia
INITIAL INVESTMENT	$2.2 billion, for Phase 1 of the Project comprising two LNG Trains, each of 2 mtpa LNG production capacity.
JOBS	Based on estimates by Magnolia LNG, LLC and the Louisiana Department of Economic Development Phase 1 of the Project will generate approximately 1,000 construction jobs, 45 permanent direct jobs and an additional 175 indirect jobs, and provide significant economic benefits for the State of Louisiana and the United States of America.
SCHEDULE	Magnolia LNG, LLC, is targeting commencement of construction in 2015 and initial start-up of operations in late 2017.

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MAGNOLIA LNG PROJECT
CONCEPTUAL LAYOUT - 8 MTPA

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PROJECT OVERVIEW

Total Capital Cost (Phase 1)
US$ 2.2 Billion

Estimated Construction Jobs 1,000

Estimated Direct Employment 45

Estimated Indirect Employment 175

Phase 1 (4 mtpa) focused on Domestic and FTA Markets

Construction Start
Mid-2015

Operations Start
Late 2017

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FREQUENTLY ASKED QUESTIONS

What is LNG?

- Liquefied natural gas (LNG) is natural gas in its liquid form.
- Cooled to –260°F, LNG is a clear, colorless, odorless, non-corrosive, non-toxic liquid.
- Primarily methane, with low concentrations of other hydrocarbons, water, carbon dioxide, nitrogen and some sulphur compounds.
- Sometimes confused with LPG (liquefied petroleum gas), which is used for domestic and commercial applications. LPG is kept liquid by confining under high pressure; LNG is kept liquid at normal atmospheric pressure by maintaining a very low temperature.

How is LNG used?

- Before LNG can be used, it must be converted back into a gas (regasification).
- After regasification, supplied to households, power stations and other industrial consumers through pipelines.
- LNG in liquid form used as cleaner alternative transportation fuel.

Why use LNG?

- Natural gas is the cleanest-burning fossil fuel, producing less emissions and pollutants than coal or oil.
- Occupies only 1/600th of the volume of natural gas; more economical to transport; can be stored in larger quantities.

How is LNG stored?

- Stored in large insulated tanks consisting of an inner tank and outer tank, with a special insulating layer between.

How is LNG transported?

- Transported in double-hulled ships designed specifically to handle the low temperature of LNG.
- LNG weighs less than half the weight of water so it will float if spilled on water, quickly boiling off and dissipating into the atmosphere, leaving no residue. No environmental clean-up is needed for an LNG spill on water.

Is LNG flammable?

- As a liquid, LNG is not flammable. Vaporized LNG is only flammable if its concentration is within 5%–15% natural gas with air.

Is LNG explosive?

- As a liquid, LNG is not explosive. LNG vapors (methane) mixed with air are not explosive in an unconfined environment. LNG vapor will explode only if in a confined space, and only if within the flammable range of 5% to 15% natural gas with air.

How safe are LNG ships and LNG terminals?

- The LNG industry has an excellent safety record thanks to the safe properties of LNG and the stringent enforcement of standards, codes and guidelines applying to LNG.
- To date there have been more than 50,000 transported shipments by LNG tankers, covering more than 70 million nautical miles, without a single significant accident or safety problem, neither in a port nor at sea.

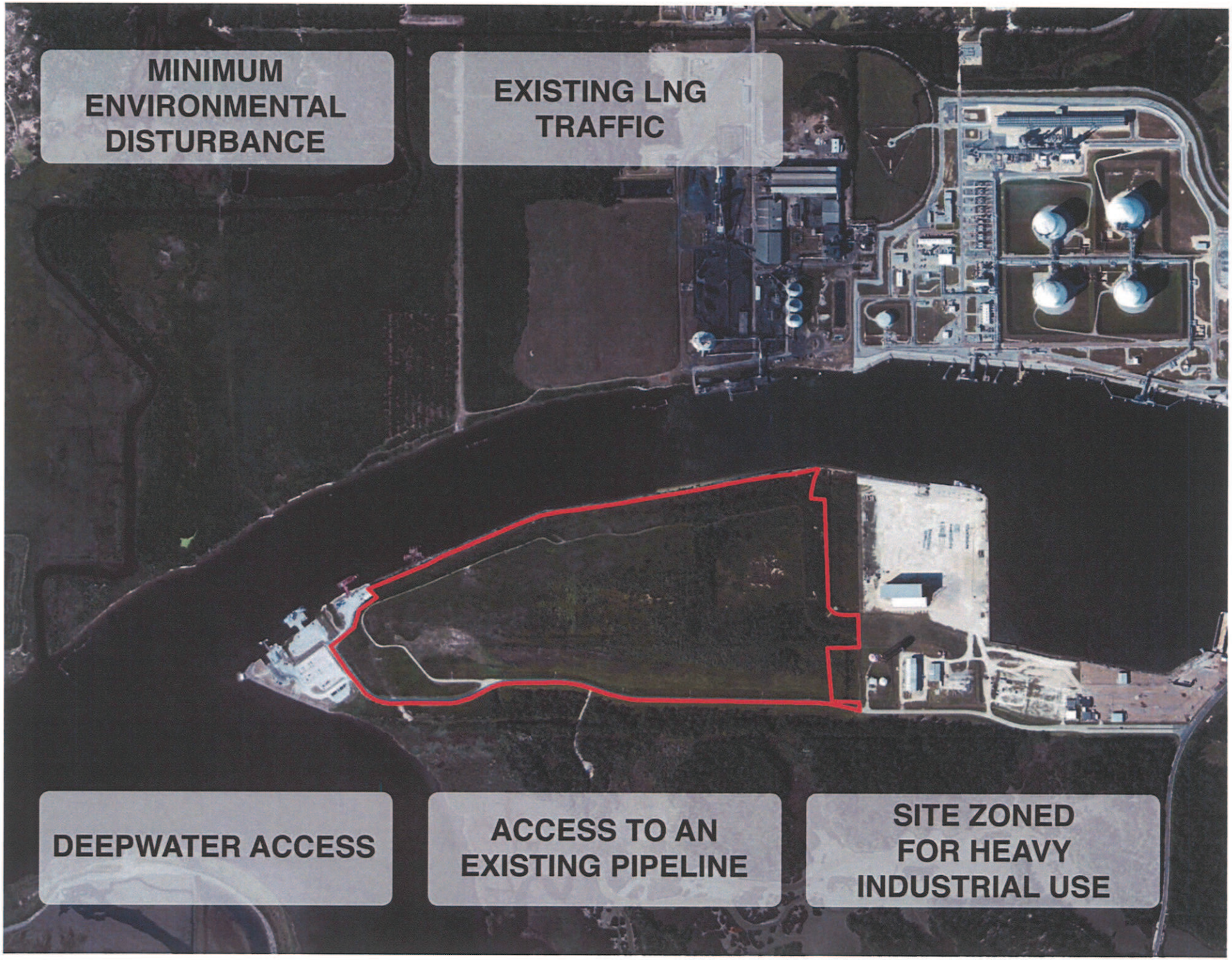
How secure are LNG ships and LNG facilities?

- The LNG industry adheres to stringent security procedures for its ships and facilities. The industry carefully follows requirements set forth by the International Maritime Organization, Federal Energy Regulatory Commission, Department of Transportation, and the U.S. Coast Guard and works closely with the Department of Homeland Security to ensure that its operations are safe and secure.

Source: www.LNGFacts.org

The LNG Industry in General

- This industry has an excellent safety record spanning many decades.
- LNG terminals (export and import) are located all over the world.
- There are over 80 LNG reception terminals and approximately 30 LNG liquefaction plants in operation worldwide, with over 40 planned new and expanded LNG terminals, and more than 30 planned liquefaction plants and expansions.


MINIMUM ENVIRONMENTAL DISTURBANCE
EXISTING LNG TRAFFIC
DEEPWATER ACCESS
ACCESS TO AN EXISTING PIPELINE
SITE ZONED FOR HEAVY INDUSTRIAL USE

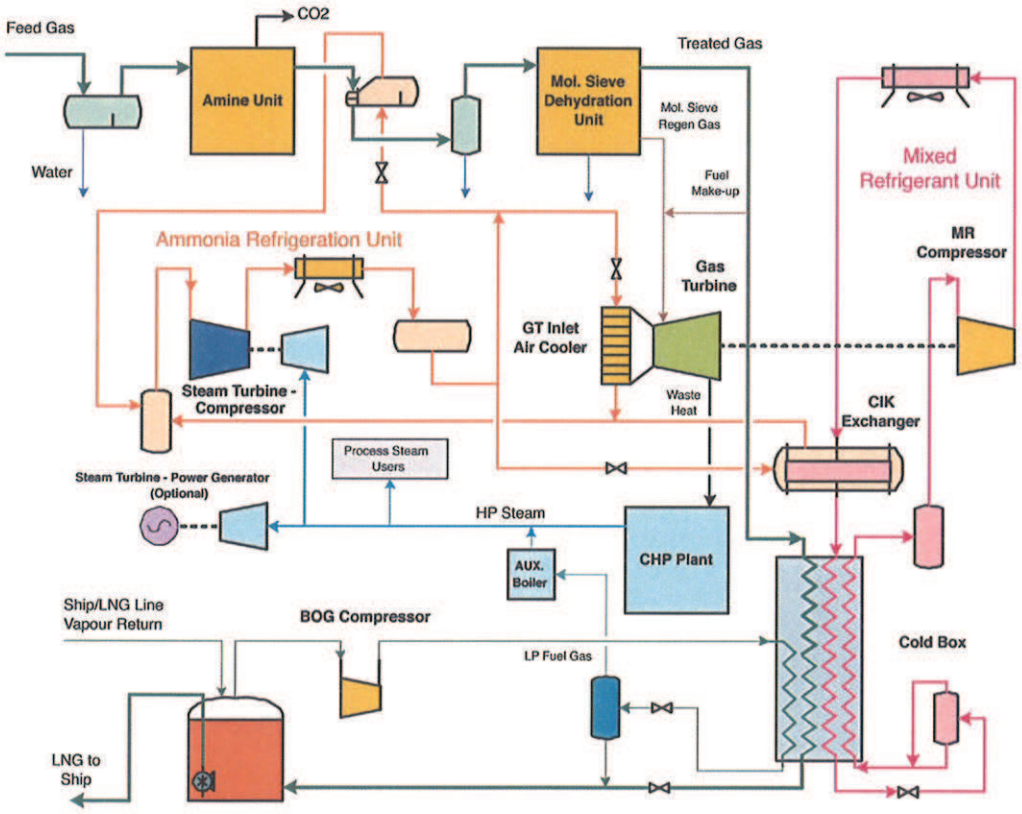
LIQUEFACTION TECHNOLOGIES

Large Scale Liquefaction Technology (>3 mtpa)
ConocoPhillips – Cascade Process
API – C3MR Process
Shell – Dual MR

Medium Scale Liquefaction Technology (1-3 mpta)
LNG Limited – OSMR® Process

Small Scale Liquefaction Technology (< 1 mtpa)
Black & Veatch – PRICO – SMR Process
Hamworthy – N2 Expansion

OSMR® PROCESS SCHEMATIC



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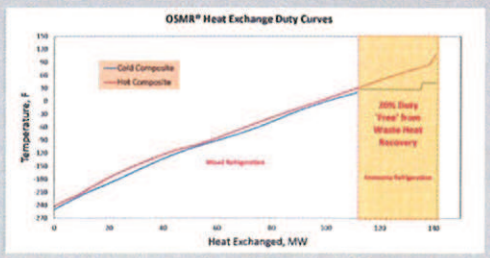
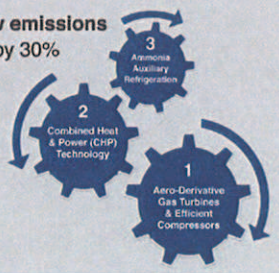
OSMR® COOLING CURVE



OSMR® BENEFITS

Simplicity in design, construction and operation
- Faster construction
- Proven technology
- Reduced capital requirement
- Location flexibility
- Less footprint required
- Simple start-up & operation
- Low turndown

High efficiency and low emissions
- Improved efficiency by 30%
- Better economics
- Reduced emissions



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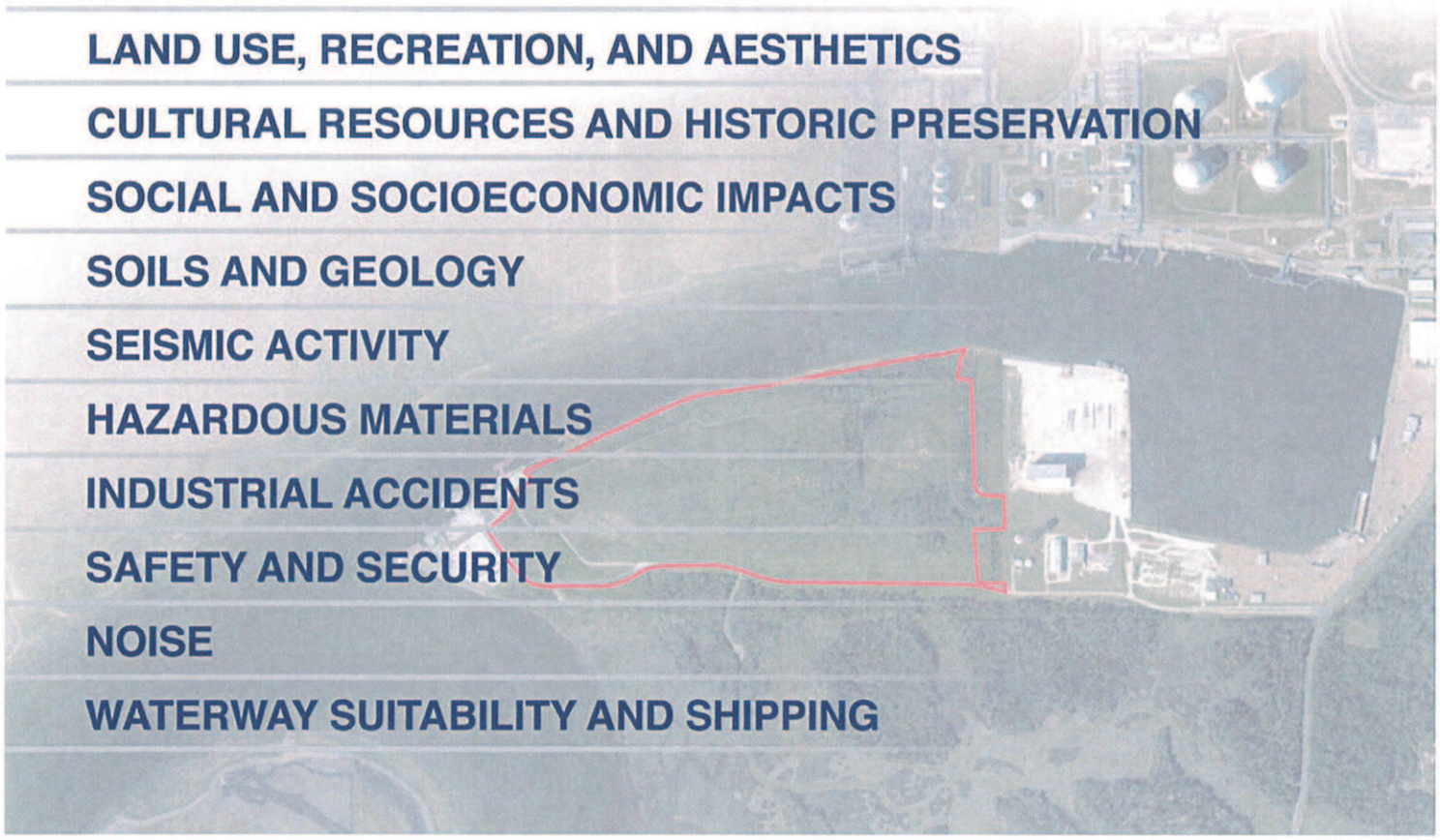
PARTIAL LIST OF SUBJECTS IN ENVIRONMENTAL STUDY

- AIR EMISSIONS
- WATER DISCHARGES
- WATER USE
- WATER QUALITY
- STORM WATER RUN OFF
- WETLANDS IMPACTS
- DREDGING AND SPOIL PLACEMENT
- WILDLIFE AND PROTECTED SPECIES
- FISHERIES
- LAND USE, RECREATION, AND AESTHETICS
- CULTURAL RESOURCES AND HISTORIC PRESERVATION
- SOCIAL AND SOCIOECONOMIC IMPACTS
- SOILS AND GEOLOGY
- SEISMIC ACTIVITY
- HAZARDOUS MATERIALS
- INDUSTRIAL ACCIDENTS
- SAFETY AND SECURITY
- NOISE
- WATERWAY SUITABILITY AND SHIPPING



MAGNOLIA LNG

MAJOR AGENCY ROLES IN ENVIRONMENTAL AND SAFETY REVIEW

FEDERAL AGENCIES

Federal Energy Regulatory Commission
Order Granting Section 3 Authorization

National Oceanic & Atmospheric Administration: National Marine Fisheries Service
Consultation on essential fish habitat, sea turtles in the water, marine mammals, marine fisheries and other protected marine species under agency jurisdiction

U.S. Army Corps of Engineers
Section 10/404 Dredge and Fill Permit

U.S. Coast Guard
Letter of Recommendation for suitability of waterway for LNG marine traffic

U.S. Department of Interior, Fish and Wildlife Service
Consultation on migratory birds, bald and golden eagles, sea turtles on the beach, and other protected species under agency jurisdiction

U.S. Department of Transportation: Pipeline and Hazardous Materials Safety Administration
Applies and enforces federal safety regulations related to LNG facilities

STATE AGENCIES

Louisiana Department of Environmental Quality
Process air emissions permits, water discharge permits, storm water control permits

Louisiana Department of Natural Resources
Consider state Coastal Zone Management policies; evaluate project location inside/outside coastal zone; process Coastal Use Permit-when applicable

Louisiana Department of Wildlife and Fisheries
Consultation on fisheries and state protected wildlife

Louisiana Office of Cultural Development: Division of Historic Preservation
Consultation on the presence of cultural resources, historic buildings, prehistoric artifacts

LOCAL GOVERNMENT

Calcasieu Parish
Building permits and similar local approvals
Coordination with all political subdivisions